

ORIGINS TECHNOLOGY SUMMARY

REQUIRED CAPABILITY		PERFORMANCE GOALS					TECHNOLOGY OPTIONS				
DESCRIPTION	PRIORITY	METRICS	UNITS	SIM	NGST	TPFA	DESCRIPTION	SOA	LIMIT	DEMO?	
Metrology Relative Laser Gauge (Optical Truss)	High	accuracy 1-D accuracy 3-D sampling rate beam length number of beams	pm pm Hz m unitless	10 135 1000 10 40	10000 10000 100 20 >40??	200 N/A 1000 75 10	Sample Point - Heterodyne Sample Point - Amplitude Laser Backscatter Radar Dyson Interferometer	accuracy 1-D accuracy 3-D sampling rate beam length accuracy 1-D accuracy 3-D sampling rate beam length accuracy 1-D accuracy 3-D ambiguity distance accuracy 1-D accuracy 3-D ambiguity distance accuracy 1-D accuracy 3-D ambiguity distance	< 1pm 1-D TBD 3-D 1000 hz? 1 m 5 nm 3-D TBD TBD hz TBD m 10 um 1-D TBD 3-D no ambig 100um 1-D TBD 3-D 1 m ambig 100 um 1-D TBD 3-D no ambig	TBD TBD TBD 200 m ?? < 1nm TBD TBD TBD	ground test ground test ground test ground test
Metrology Absolute Laser Gauge (Optical Truss)	High	accuracy 1-D accuracy 3-D ambiguity distance	um um m	1 10 1	1 10 1	0.1 1 1	Frequency Scanning Dual Heterodyne Laser Ranging	accuracy 1-D accuracy 3-D ambiguity distance accuracy 1-D accuracy 3-D ambiguity distance accuracy 1-D accuracy 3-D ambiguity distance	10 um 1-D TBD 3-D no ambig 100um 1-D TBD 3-D 1 m ambig 100 um 1-D TBD 3-D no ambig	1 um 1-D TBD no ambig TBD TBD TBD TBD TBD no ambig	ground test ground test flight

Metrology & Control 1